

PARLIAMENTARY DEBATES

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OFFICIAL REPORT

European Standing Committee B

COMMUNITY RESEARCH AND DEVELOPMENT

Tuesday 30 November 1993

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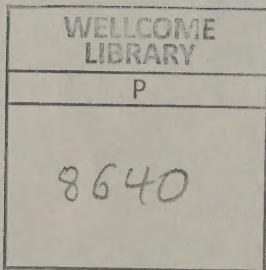
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Davies, Mr. Quentin (*Stamford and Spalding*)
Deva, Mr. Nirj Joseph (*Brentford and Isleworth*)
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Jenkin, Mr. Bernard (*Colchester, North*)
Whittingdale, Mr. John (*Colchester, South and Maldon*)
Wigley, Mr. Dafydd (*Caernarfon*)

Mr. P. A. Evans
Dr. P. C. Seaward } *Committee Clerks*

European Standing Committee B

Tuesday 30 November 1993

[MR. MARTYN JONES in the Chair]

Community Research and Development

10.30 am

The Parliamentary Secretary, Office of Public Service and Science (Mr. David Davis): May I begin with a couple of personal comments? It has come to my attention that the Committee is probably the first to discuss a science subject when the Minister, the Opposition spokesman, the minority party spokesman and the Chairman are all scientists. It might not be a unique first, but it is certainly commendable. I am tempted to misquote Kennedy and say: "Never has so much scientific talent discussed these things in the House since Newton sat alone."

Furthermore, as the massed efforts of science have not defeated the influenza and common cold virus, I hope that they will not defeat me today and I beg the Committee's indulgence for my coughing or sneezing.

I welcome the decision to debate this important new programme. It is clearly timely, with the Belgian presidency hoping to reach agreement at next Monday's Research Council meeting on 6 December. The new framework programme was last discussed by Ministers at the Research Council on 11 October. Several important issues are still outstanding for decision, the first of which is the overall amount.

The Commission's proposal was for 13.1 becu—about £10 billion. At first sight, that appears to be a big increase on the 6.6 becu expenditure under framework programme 3, but framework programme 4 is designed to embrace all European Community science and technology expenditure, agreed as part of the Maastricht decision, and not only that contained in the third framework programme. That means, for example, the inclusion of the category of "accompanying measures"—or APAS, which hon. Members will read in some of the documents—and the Thermie demonstrator programme, the costs of which are shown in annex B of the supplementary memorandum.

The Edinburgh summit agreed that the new framework programme would occupy between a half and two thirds of the internal policies line—a band between 10 becu and 14 becu. We believe that a figure well below 13.1 becu would be fully adequate. The figure of 13.1 becu in fact represents 62 per cent. of the budgetary internal policies line, based on economic assumptions made at time of Edinburgh summit. We may well find that those assumptions prove optimistic in the light of events. Our view is that a figure well below that would be satisfactory to maintain and develop European Community science,

Many countries are nevertheless prepared to sign up to 13.1 becu. The European Parliament's initial opinion is that the still higher figure of 13.7 becu would be appropriate. Off the top of my head, I calculate that that figure represents about 65 per cent. of the internal policies line. Clearly, there are important discussions ahead, in

which the United Kingdom will take account particularly of the position of important partner countries such as France and Germany.

The next important issue is the breakdown of the agreed total. Although the original Commission proposal was broken down into seven large programme lines, the now unanimous view of member states is that 18 separate programme lines would be desirable. It is important to ensure a sensible level of disaggregation in the main framework decision, which is taken by unanimity. Otherwise, we cannot ensure effective control over how the agreed total will be distributed across programmes, and the research community is denied the stability of funding that is essential to the success of multiannual research programmes.

There are bound to be difficulties in reconciling various national positions on the detailed breakdown within the programme. Some of our goals will not be shared by others, and we shall need to look for pragmatic but sensible compromise. For example, we believe that the life sciences represent an important future dimension for European Community research—a point with which I am sure you Mr. Jones, agree—with good potential for economic spin-off, not least because European and United Kingdom companies are competitive in that sector.

Not all our partners share that priority, particularly those with less-developed research bases in that area. We believe that it is important to give clear emphasis to the work of telematics, although some other partners would like relatively higher expenditure on information technology. There is pressure also for much greater spending on training and mobility. Important though those areas are, the framework 3 training programme has had many problems and we shall expect them to be solved before any increased scale of activity commences.

The 6 December meeting will also need to consider how the participation of the Joint Research Council should be handled. The Commission has proposed major earmarked expenditure of 1.137 becu for the JRC; the distribution is to be decided later. The United Kingdom, with much support from other member countries, believes that a major earmarking of resources of that kind should not be taken at the main decision stage but should be reached progressively through discussion under each individual programme. We believe that that process should run alongside fundamental change at the JRC to a proper customer-contractor relationship between the JRC and its customer Directorates General. Proper competition will act as the spur to greater dynamism. Furthermore, the JRC needs more flexible management arrangements to be able to respond to changes in scientific priorities. The UK has taken the lead in setting the agenda for change and we are receiving much support in this from other member countries.

Finally, we believe that it is important to resolve the problems and anomalies in the expanding field of research training and mobility—activity four in FP4. That has been an important FP3 programme, much valued by scientists, but it has given rise to many justified criticisms from UK universities and institutes. The main problems have been inadequate provision for research overheads, and the fact that research student salaries are being funded through a single flat rate converted into other currencies, which is insensitive to differences in national living standards and

payment rates. Once again, the United Kingdom has taken the lead in current action in Brussels to identify workable solutions.

The Committee has also suggested that we tag the Commission's communication in research and technological development. That important document from the Commission was the subject of an explanatory memorandum from the Department of Trade and Industry, which is responsible for policy in that area. I share the Committee's view of the importance of that area and do not wish to constrain the Committee's debate today. Although it is primarily the responsibility of the Department of Trade and Industry, I shall of course answer as many questions as I can.

I have described the main decisions to be put before Ministers on 6 December. The discussions will be complex and difficult to predict; hence, an agreed outcome on 6 December cannot be assured. Once a common position has been reached, a co-decision process with Parliament will take place. If the whole programme is not to fail because of European elections, that process must end by May 1994. We naturally hope to see a resolution in good time.

Dr. Moonie: I am delighted to add my support to the Minister's comment that so many scientists are involved in today's debate. That is an improvement on what normally takes place in the House.

I should like the Minister to expand on a series of inter-related points. I shall go through them briefly. The key point is the overall level of spending in the programme.

Mr. Quentin Davies: On a point of order, Mr. Jones. The hon. Gentleman said that he had a list of questions and that he proposed to put them to the Minister now. Can we therefore assume that we shall all be allowed to ask several questions—a series of questions—or shall we be confined to a single question whenever we catch your eye, as has sometimes been the practice?

The Chairman: That, of course, is the normal practice. However, I understand that the questions are brief and related. If the hon. Member wishes to do the same, I am sure that it will be in order.

Dr. Moonie: I am well aware of the Committee's procedures, but rather than jumping up like dummies, it should be possible to do as I propose if we discipline ourselves properly.

First, with regard to the overall budget and the need to expand—to consider spending on research and development as an investment rather than simply as public money being wasted—there is a case to be made for the Government taking a rather more liberal view about the total sum proposed. Secondly, on the balance of spending, I am a little concerned about the wish to reduce spending on information and communications technology. It is undoubtedly the largest and most important sector, and it has the largest potential market. Perhaps the Minister can expand on the structure and function of the JRC, which interests me.

Does the Minister accept that the market has failed to offer financial support for the dissemination of technology but that such an aim is worthy of support? Finally, is it not a scandal that the Government are still attempting to maintain research salaries at such an unrealistically and unfairly low level?

Mr. Davis: I shall try to respond as briefly as possible. The Government do not view expenditure on the programme as a waste. I want to correct that misapprehension, if it exists. The Government view such expenditure as an investment. It is important that we should distinguish clearly between what is best achieved at a national level and what is best achieved at a continental level. If any Member of the Committee wants to pursue the matter, I can elaborate later on the reasons for that, and perhaps give some examples.

The figure of 13.1 becu is too high. We must examine the projected overall expenditure that has been supplied by the Commission. Total framework commitments are about 2 becu, with additional expenditure of about 700 mecu. The total would be the equivalent of 11.7 becu. Some of that, under the accompanying measures, we do not consider worthy of further pursuit, so we are not simply exerting a downward pressure because we think that the expenditure is wasteful. We want appropriate expenditure to replicate and continue programmes that are valuable and effective.

We argue—and we are among the highest group—for a very high commitment to the first seven groupings, which form the so-called activity 1. We aim to achieve about 87.5 per cent., which is higher than the targets set by the presidency and the Commission. Our aggregate view of the level of hard research is higher than average.

I cannot defy the laws of arithmetic. If we increase one amount in percentage terms, another will go down. We believe that there should be a commensurate reduction in share in information technology, partly because of the current focus on dynamic random access memories—DRAMS—and so on, which are pretty much commodity technology. We are concerned about the impact of that.

The JRC was originally set up under Euratom and has four research institutes in Belgium, Holland, Italy and, I think, Germany. Professor Hermann Bondi produced an evaluation report for the JRC that revealed a number of management problems. To some extent those involved overmanning, to some extent a mismatch of skills between the staff and what they were doing, and to some extent an age profile problem. It was felt that many of those problems had arisen because of the rather protected nature of the JRC. Our argument is that going over to a contractor-customer basis would free the JRC and allow it to bid for outside work. There would not necessarily be a reduction in activity, but a different method of management. We have considerable support for that proposal in the Community.

Western financial markets—particularly American and British ones—are often criticised for being short-termist. I understand that criticism, but there are counter-arguments. For example, industries that are well known to be heavily technologically based, with long R and D cycles—such as the pharmaceutical industry, which the hon. Member for Kirkcaldy (Dr. Moonie) knows well—typically have extremely high price-earnings ratios, with a low cash cost of capital. For the economists present, I distinguish between that and a low total cost of capital. That shows that the market, if it is aware of investment in technology and understands the nature of the investment, reflects it well.

Companies with a competitive advantage based on technology—obviously based on research—receive a higher PE ratio. Similarly, companies run by chief executives with technical knowledge receive a high PE ratio. In my judgment there has been an information

[Mr. Davis.]

failure. Many of the schemes of which we approve in the EC programme concern co-ordination and information to improve the effectiveness of those markets.

A problem has arisen because of the artificiality of various salaries. It is not only in the UK that fellows are paid more than their supervisors—in extreme cases, they are paid more than professors. The corollary of that is the overhead component, which has an unhappy effect on almost every northern European institution. The allowed overhead is 15 per cent. The Commission takes 3 per cent. of that for itself, leaving 12 per cent. Typically, we have a 40 per cent. cost overhead on a project before taking on board the additional costs. We have to resolve that if we are to make EC projects attractive to British institutions.

Mr. Quentin Davies: Perhaps I may ask three inter-related questions about the sums involved.

First, where does the figure of 13 becu come from? This morning we heard that at the Edinburgh summit it was decided that the figure should be between 10 becu and 14 becu. Presumably, politicians were working on a recommendation from the Commission or its officials. Where did the original figure come from? Is it a top-down calculation? Did someone simply decide to spend a certain sum of money as a proportion of another sum and then consider how that money might be expended? Is it a bottom-up process? In other words, have people evaluated the likely cost of some worthwhile research projects and come up with this prospective budget? It is important to have a clear answer to that.

Secondly, what monitoring systems have been in place for the first three framework programmes, and what monitoring system does the Minister propose to monitor the fourth framework programme to make it absolutely clear that we shall be able to check on the proper expenditure of the money and judge its results in as precise, quantified and professional a way as possible?

Thirdly, I ask the Minister if his officials have made an estimate of what proportion of the 13 becu—the amount to be expended under the fourth framework programme, if Ministers so decide in the Council—is likely to go to research institutions, universities, businesses or people in this country. In other words, what will we get back?

If such a study has been undertaken, what are the results? If no such study has been undertaken by the Minister's officials, why has it not been undertaken?

Mr. Davis: My hon. Friend asked whether the calculation is made on a top-down or a bottom-up basis? The genesis of some Commission decisions is not as clear as one may expect. In 1992-93, the sum of the research projects made up 62·1 per cent. of the policy total. In that sense, the calculation was top down. Of course, the negotiation is fluid. As my hon. Friend the Member for Stamford and Spalding (Mr. Davies) understands, different positions are taken by different people and their initial positions are by no means necessarily their final ones. The question of co-decision makes that process more complex in some senses, but clearer in others. I cannot give my hon. Friend a precise answer, but it seems that the figure of 62 per cent. has been established on the basis of carrying last year's figure forward. Our approach is rather more bottom up than that.

The Commission has clearly taken on board two of our points about monitoring systems. We were the first country to submit its views on framework 4, and as a result partly of that and partly of the quality of our arguments we have influenced the Commission's thinking.

One of those points related to evaluations. We have encouraged more evaluations of the programmes while they are under way. There is a technical problem: because one programme abuts on another, the evaluations from framework 2 tend to be used to make judgments on framework 4, and framework 3 evaluations will end up influencing framework 5. The process is not quite as mechanistic as that, but timing is a problem. One reason for the disaggregation into 18 programmes is to give the management committees that run those programmes more power, influence and direct control. It is important to have control at the expert level. We must bear in mind, as the hon. Member for Kirkcaldy said, that this programme is an investment, not a squandering of money. Because we are considering pre-competitive programmes, the benefits are very long term. We can test them only by proxy measures.

The Commission has a concept called *juste retour*, which refers to whether what we put in is matched by what we get out, in rough terms. *Juste retour* now represents some 15 per cent. to 16 per cent. of the programme; for framework 2 it would be nearer to 18 per cent. The aggregate outcome—the weighted average of total outcomes—for United Kingdom institutions' share of funding, as best we can estimate it, is 19 per cent.—a little over *juste retour*. In nearly every programme, we are above *juste retour*: in information technology our share is 18 per cent.; in communications and in telematics our share is 20 per cent.; in industrial materials it is 19 per cent.; in measurement testing it is 22 per cent.; and in the environment it is 21 per cent. The only programme in which we are below *juste retour* is non-nuclear energy, and in some programmes we are quite a way above it—by 25 per cent., for example. The programmes in which we are above *juste retour* reflect our strengths and are therefore to our greatest industrial and economic advantage. Some 75 per cent. of those who took part in the Brite-Euram programme said that it helped their competitive position.

A long-term benefit of continental as opposed to national research is our contact, co-ordination and involvement with a large range of projects. Under framework 2, we had 17,853 contacts, which was more than Germany and France, who had about 16,000 or 15,000, and more than everybody else. We do rather well out of this programme.

Mr. Wigley: May I welcome you, Mr. Jones, and the Minister to the Committee? I am glad to see both you and him here. May I, as I always do, declare my interest—the research support that I receive for my work on the Committee?

I should like to press the Minister on the timetable. He said that he hoped that decisions would be taken at the December meetings. Am I right to say that the existing third framework programme will end on 31 December, and that to get the new framework in place it must have a First Reading in the European Parliament and a common position must be agreed in the Council? Such agreement is not likely to be achieved before March 1994 at the earliest, assuming that the conciliation mechanisms are avoided. Will funding end after 31 December, and will nothing be

able to start until all those procedures have been cleared, which, at best, will take three months and could take considerably longer?

Mr. Davis: I thank the hon. Gentleman for his welcome to me; we are not strangers. The framework 3 programme comes to an end in December 1994, not 1993, which takes out a large part of his question.

The Maastricht procedure is quite complex and I have a flowchart showing the way in which the process of co-decision works. We did not include that in the documents because it is an aide memoire for me and not a public document. However, I wonder whether, with your permission, Mr. Jones, I could circulate it if that would help the Committee.

The Chairman: I am sure that that would be in order.

Mr. Davis: I shall circulate it if we have enough copies and if the document would be of help.

If the hon. Member for Caernarfon (Mr. Wigley) reads the document, he will note that a quite complex procedure follows if there is no agreement at the first stage to co-decision, which, effectively, is almost a joint veto. If that happens, the matter will go to conciliation and the deadline is the plenary Session of the European Parliament in May. That is the backstop on the procedure because of the elections issue.

I hope that, with goodwill, we shall arrive at a decision by or before May but, if matters go wrong, we shall have to resolve the problem before the end of the year. That is the position. It is said that the language of science is logic and I hope that the flowchart will help that logic.

Mr. Jenkin: My hon. Friend the Minister has explained, to an extent, what influence the United Kingdom has had over the views of the Commission. Will he expand on that? Will he explain how that pressure is improving the position of the United Kingdom and will he tell us what it gets out of it? In relation to that subject, will my hon. Friend explain our view of how subsidiarity applies to the exercise? I am all in favour of subsidiarity if the United Kingdom extracts maximum advantage from it.

Mr. Davis: Yes, I have already explained to my hon. Friend, to an extent, what the influence of the United Kingdom has been. The key elements of United Kingdom thinking incorporated in the Commission proposal are, first, that the structure of research programmes builds on framework 3 and what is already there, with two new transport and socio-economic programmes. Secondly, although Community thinking tends to favour sectoral support programmes, we have given our support to key technologies with widespread applications, including the generic and pre-competitive technology aspect, which I can explain if the Committee requires me to do so.

The distinction between Community programmes and the Eureka programme has been maintained. The Committee will be aware that, with the Eureka programme being run on a national basis in the United Kingdom, the emphasis has largely gone towards small medium-sized enterprises in the past year.

My hon. Friend referred to the importance of the evaluation of continuing programmes to guide our decisions on existing and new programmes, to ensure close

consultation with member state experts and to achieve better co-ordination in the Commission, which are significant management issues.

Our views have not been taken on board in relation to the overall amount, which I have discussed, and the Commission proposal has put more emphasis on centralised dissemination, which is activity three, from memory. Our view is that the route of the dissemination of information should rest with the project itself because those carrying out the project would have a good knowledge of where information would be most useful. However, the Community wishes to centralise that and a distinction still applies in that regard.

A question was asked about subsidiarity. The Government believe that there is a role for Community research in several areas. First, there is a role where such research would help to consolidate a single European market by establishing industrial standards and ensuring a mobile supply of skilled researchers. An example of that is the Monet programme—I apologise for my pronunciation; there are several ways to pronounce the word, depending on whether it means a painter, an early European politician or a scientist—which brings into effect a standardised mobile telephone communication system. Another example is the encouragement of collaboration with the inter-Community-developed generic technologies. We have a good programme of our own—ICI runs a materials characterisation programme.

The third example is when it informs the Commission's policy and regulatory functions. The Commission's regulations have sometimes been technically difficult to carry out, and obviously we want to inform the Commission. The fourth example covers carrying out research across frontier dimensions, when the scale is trans-continental—nuclear fusion is a good example—or when the issue is transnational; for example, environmental matters relating to oceans. The final example is when we link programmes or research networks to achieve synergy. We have a project called Amica—the John Innes Institute in Norwich and the Max Planck Institute are leaders of that project. There is another called Gemini, which relates to the Genome project database. Many research activities are taking place, and it is useful to pull those together to avoid duplication.

Mr. Etherington: I was interested in the Minister's comments about investment in research at national and Community levels and his premise that an excessive amount of money is being put into research and development by the Commission. Will he tell us what is the expenditure, both nationally and by the Community, compared with what is spent in the United States and Japan?

Mr. Davies: I cannot give the Community figures as compared with Japan and the United States off the top of my head. If a thought springs to mind, I shall tell the hon. Gentleman in my summary. It should be understood, however, that the main thrust of Japanese civil research is industrial. We in Britain could learn from the sheer magnitude of the effort that the Hitachis and Sonys of the world put into industrial research. For example, Hitachi employs 150 people to do nothing but search patent databases and to look for intellectual property that would be an advantage to the company. It is impossible to replicate that in Government terms because it is market

[Mr. Davies.]

driven. The hon. Member for Sunderland, North (Mr. Etherington) should know that the answer is not measured by some aggregate. Quality, direction and the advantages to be gained are as important as quantity in such matters.

Mr. Whittingdale: I was pleased to hear of our success in winning contracts under the framework programme, and especially that our record is better than that of many other Community countries. What are the Government doing to publicise the opportunities that exist for British firms to take advantage of the programme and what efforts are being made to persuade small firms to apply for help?

Mr. Davis: We have supported a wide range of efforts and have encouraged firms to take advantage of the programme. The Department of Trade and Industry's memorandum referred to SMEs. They have problems, such as the hurdle of knowing when the application for research must be made, the timetable, the bureaucracy involved and the speed at which they will be paid once the research has been carried out. Those are all bigger problems for SMEs than for companies such as ICI, GEC, and so on. We are arguing—successfully, I believe—for all those matters to be improved.

We must not lose sight of the fact that we are talking about pre-competitive generic technologies. In order to be used, they must be built upon, and by our decentralised view of dissemination, we are trying to ensure that small companies are aware of that. As I said earlier, about 75 per cent of those who took part in the Brite-Euram programme believed that they had achieved a competitive advantage from doing so. We are cognisant of the problem that my hon. Friend the Member for Colchester, South and Maldon (Mr. Whittingdale) rightly raises and we are doing what we can to help matters.

Mr. Wigley: The Minister referred to the Genome programme and he will be aware of my interest in research into genetic abnormality. Will it be possible to have a common European approach, given the differences in policy within the member states? I cite Germany's attitude to research into this matter for reasons that are well understood. Given that what is being undertaken is generic research, which will have a considerable market value to those who apply it, what is the position regarding common patent protection? The Minister will be aware that patent protection of the Genome project, which was being undertaken until fairly recently by James Watson in the United States, has been critical. Are those matters being considered with regard to a common European policy?

Mr. Davis: I am not sure which issue worries the hon. Gentleman with regard to human genome matters and the different legal basis between Germany and this country. Is the hon. Gentleman referring to the property rights issue?

Mr. Wigley: There is a restriction on genetic research in Germany because of ethical questions, whereas we have a framework that allows work to be done in Paris.

Mr. Davis: That highlights two points: we can do some collaborative research within that legal framework, and much of the synergistic work brings together information from different research projects in different parts of the Community. The Gemini project that I cited is an animal genome database. Obviously, while some countries will not

generate much new research, others will. It is important to get the best results from efforts made, so we should compare and collaborate, but there is no requirement for every country to take part in every project. However, that does not mean that the rest of us should not do what we can to maximise development.

On the common patent issue, there is still a major difference of opinion between Governments—certainly across the Atlantic. That matter is actively under discussion. The hon. Member for Caernarfon will be familiar with our arguments, we believe that the matter is too important to go the American route.

Mr. Quentin Davies: Will my hon. Friend tell us a little more about the process by which funds are allocated under the framework programmes? Does the Commission have a process of inviting research institutes, firms and universities to tender for research projects? Is it up to the research institutions to apply, as happens with the various research councils in this country? Is the allocation of funds and the choice of projects determined intuitively by an outside body of experts—by peer group review? Is a system of quantified investment appraisal in use by the Commission? That is a legitimate question because the Minister has said that we are talking about an investment. What techniques are used in quantified investment appraisal?

Mr. Davis: The Maastricht process brought together many programmes that previously were disparate. Some were within FP3 and some were outside it. The process is now a little different.

A programme is made into a work programme by its management committee. That is followed by a call for bids from researchers which involves a bidding period. Some of the database systems, such as the relay system for SMEs, can be tapped to give information on what bids are pending. Unfortunately, I cannot remember the name of that system. We have made the point that to open up the process, we need continuous bids—rolling bids—and bid timetables with greater flexibility.

There is an appraisal process, which is a peer review process. There is no investment appraisal as my hon. Friend would understand it. To attempt to carry out a discounted cash flow on some projects would be pointless because the timetables are so long and the outcome is serendipitous. By its nature, the system crosses many technologies, many industries and many countries. Its value is, in part, dependent on its exploitation by industry.

However, there is now an evaluation process, which we can claim as one of our wins. We have persuaded the Commission of the value of such a process, both in retrospect and as a guide to future acts. It is becoming a process that is as logical as we can make it.

Mr. Wigley: Is the Minister satisfied that the procedures are not unduly complicated? They appear to be fairly complicated.

Mr. Davis indicated dissent.

Mr. Wigley: The Minister nods in agreement. Therefore, will the procedures be renegotiated in 1996?

Mr. Davis: I was shaking my head. I do not think that that is Welsh for nodding.

I am not persuaded that the procedures are as unbureaucratic as they could be, and that is part of the impetus now. Those matters, especially the SME programmes, are being considered to make them less bureaucratic, less onerous and quicker, so that, for example, payments are received more quickly. As I mentioned earlier to my hon. Friend the Member for Stamford and Spalding, those proposals are part of our preference for an easier, more transparent, more open and more effective process.

Motion made, and Question proposed.

That this Committee takes note of European Community Document No. 8107/93, relating to Community research and development; and endorses the Government's negotiating objectives of securing both excellence and value for taxpayers' money in these activities, enhancing their contribution to economic competitiveness, and seeking in particular an overall amount for the Fourth Framework Programme and a detailed breakdown of expenditure between activities that reflects the United Kingdom's interests and priorities.—
[Mr. David Davis.]

11.14 am

Dr. Lewis Moonie (Kirkcaldy): I welcome the Minister to the first Committee on which he has opposed me as a Minister. Of course, he served on Committees in the role of Whip when, unfortunately for him—perhaps fortunately for us—he was not allowed to say anything. Today, it would be mean to say anything other than that he has made a very good contribution to the debate so far.

Mr. Davis: I spoke in one Committee debate during which the hon. Member for Kirkcaldy provoked me by talking about pheromones. Most members of the Committee were asleep, but I woke up and the hon. Gentleman said, "The Whip is paying attention." I replied, "That is because the conversation is about sex".

Dr. Moonie: We had better pass over that and not elaborate further on something so far from the motion before the Committee.

Mr. Davis: Life sciences.

Dr. Moonie: Indeed, we are spending more on the framework programme for life sciences, as the Minister will be aware if he has read the documents in the detail in which I did at 10 am. Of course, I have served on this Committee once before when I had the pleasure of inflicting a defeat on the Government over the issue of patent life protection. We were in the unusual position of being more in favour of industry than were the Government at the time.

Mr. Bernard Jenkin (Colchester, North): Very unusual.

Dr. Moonie: No, it certainly is not very unusual. So often one says one thing and does another.

However, may I first congratulate the Minister and his Department on the clarity of the documents that have been given to us today? It is a real pleasure to be able to understand the document before us. European documents are masters of obfuscation, and I frequently spend hours trying to disentangle what is proposed. In this instance, even the European document has not lost anything in translation and seems to be a reasonable example of its kind. It is a pleasure to work from documents that one can understand.

I welcome the programme and the level of budget that is proposed, with the proviso that I mentioned earlier, which I am sure the Minister accepted about the need to consider spending on research and development as investment and not merely as public cost. European programmes are supposed to concentrate on pre-competitive research, which creates problems, especially when there is a pot of money as large as this one. The distinction between pre-competitive and near market research can be specious and extremely difficult. There is considerable overlap and it is sometimes difficult to show whether something is near market or not unless we actually test the market. The Government's fingers were badly burnt on several occasions during the previous Parliament when they withdrew support from what they described as near market research, especially in agriculture, and discovered that no one in the market was prepared to take it up and that the research was not being undertaken. Surely the test of whether something is near market should be that someone somewhere in the market is prepared to do some work, if it is of clear value as this research undoubtedly was. We must be careful about being over-prescriptive in our distinctions.

Mr. Jenkin: Surely, if the Government support what they believe is near market research and they then find that there are no commercial takers to carry it out, the research cannot be as near to the market as the wishful thinkers who originally funded it thought.

Dr. Moonie: Indeed. Unfortunately, the position can be described in two ways. The hon. Member for Colchester, North (Mr. Jenkin) has described it in one way. The second way in which to describe it is the markets produce failures. They do not always take up good ideas and sometimes need to be exhorted and encouraged to do so for their own good. There are many examples of that, especially in relation to financial support for small growing businesses, which is still one of the crucial blocks to economic growth at that level. The markets seem to be incapable of making rational decisions. I am suggesting not that the Government should take decisions for them, but that they should encourage them to make more rational decisions than they do at present.

I now return to the fourth programme, which is significant. European democracy, as those of us who are somewhat sceptical about the benefits of such a beast argue, tends to become rigid and over-prescriptive. We are considering spending £8 million or whatever the sum was. Perhaps it was larger, say £10 million, which is even worse—or perhaps better, depending on what attitude we take. If we are considering spending £10 million, we are entitled to ask whether we are getting value for money or whether this is just another example of a rigid and over-bureaucratic institution perpetuating itself for no better reason than it existed previously.

The document refers to value for money and the scrutiny of research. Therefore, I must ask the Minister to explain exactly what will be involved. If we are spending that amount of money, it is well worth our while to spend a significant proportion of it on determining whether our previous framework programmes have been of any demonstrable benefit to those concerned or whether they are of benefit only to Hitachi and Sony and to the people who employ all those guys whose only job is to sit down and sift through the research that we are doing for them at our expense. That seems to beg the question of whether we are

[Dr. Moonie.]

getting full value from the large spending that we are sanctioning. The Opposition will be supporting that spending in principle.

I support what the Government are saying on the subject of better evaluation. I could say as an aside that I wish that the Government had carried the principle of accurate evaluation into others of their endeavours—for example, into some of the changes to the national health service when they totally failed to evaluate the benefits of general management before proceeding to supersede it with something else. That is by means of illustration only and I shall return to today's subject.

I am concerned that a matter highlighted by the hon. Member for Stamford and Spalding—the way in which research is conducted under the programmes. Effectively what happens is that a central directorate decides what the programme of research will be and then commissions research on a multinational basis. I have an instinctive dislike of central direction on any issue, particularly on research because there is a risk that mistakes will be made. The bottom-up approach would be far better: let the centre set the broad themes to be covered, without being over-prescriptive, and then allow people to bid for what may be appropriate. That might achieve a far wider and more accurate programme of research reflecting the real needs of the sector rather than its needs as perceived by someone sitting in Brussels, who might not necessarily set the same priorities that we would want to set.

The general principle is to support generic technologies and I welcome the Government's commitment to care in ensuring that certain sectors, such as aerospace, do not become over-prescriptive. There is a danger that a large pot of money for public spending such as this will be considered as too good a chance to miss by certain companies who do not want to spend their own resources on research and development. They will think of the money as a milch cow to provide funds which they should be spending themselves. Given what I said about not being too over-prescriptive, I welcome the fact that the Government will try to ensure that individual sectors do not become over-prescriptive and that we do not go too near the market with this research programme—that is not its function.

I welcome the new emphasis on social sciences in the programme for a particular reason. The Economic and Social Research Council in Britain has, over the past couple of years, developed a lucid and worthwhile description of the mechanism by which people interact and of how research and technological activity are conducted within the framework of society. It is important to develop that because so often now we discover that the development and implementation of technologies is not about developing the widgets themselves or about building better things, but about how to get people's minds to interact. That has many implications for a programme of this size.

First, without the techniques that they are capable of providing, we shall not be able to evaluate whether previous framework programmes have succeeded. I hope that the Government will stick to what they say in the explanatory memorandum and, to ensure that the money is not wasted, will insist on an effective evaluation of previous programmes before committing large sums of money to future programmes.

I make one small criticism in what I suspect will otherwise be a reasonably supportive—for me, an unusually supportive—speech. In the 1990-91 Session, the Select Committee on Education, Science and Arts debated science policy and the European dimension. The Committee said:

"We call upon the Departments concerned"—

those are the United Kingdom Government Departments—

"to demonstrate that the principle of additionality, enshrined in Community law, is not being breached and that funds obtained by UK research institutions from EC R & D programmes are genuinely 'new money' and are not clawed back by the Treasury from spending departments."

That is important, because it can have an indirect affect on spending in British institutions. I accept that it would not be a direct affect—the Minister has already explained that. The principle of attribution is that wherever money is obtained by Departments from the framework of other programmes, it is then withdrawn by the Treasury and therefore is not counted as new money. I would not say that all funds from Europe should be counted on the additionality principle—that would be plain daft, as it is a lot of money. Even if we tried, we could not spend that amount of additional funds in a single year. However, there is room for the Government to move.

Perhaps we should loosen the over-rigid control that the Treasury brings to bear on those funds and to get slightly more added value from them. The White Paper states:

"The system of attributing the cost of Community Expenditure to Departments has given Departments a clear incentive to seek value for money from Community Programmes."

Our international vision should perhaps be a little less circumscribed. I hope that the Minister will at least be able to consider whether any moves can be made. He should remember that the system of attribution was universally condemned by those who made submissions on the White Paper.

How does that vast programme of research relate to our country's activities? I am sure that it will have interesting implications for the Government's technology foresight exercise; such an exercise has already been carried out in detail at a European level. Although there may be some difference of emphasis within our own programme, I should be surprised if it differs much from what is before us today.

The important point is the balance of spending on research between Government and industry. The Government can be looked upon as the main contributor in the early stages, but the closer one gets to the market the larger should be the contribution from industry. We still lack industrial spending. Our spending lags far behind what companies in Japan or the USA are prepared to spend on research and development. The international figures on research and development show few British companies in the top 300 or 400 research-based institutions. That must be a matter of concern to us all.

The main question is how we build on the activity that the programme is creating. The document before us is about support for small and medium-sized companies. That is the vital sector for growth; after all, we hope that today's small companies will be the medium-sized companies of tomorrow and the large companies of the day after. However, that sector will benefit least from the money that we spend. Small companies do not have the resources to bid for research in the first place, given the way

in which the programme is constructed, and are often precluded from benefiting from the programmes that we are discussing, which should be of most use to them. Thus, support—for example, tax subsidies for research and development—is not appropriate for companies that cannot afford to spend in the first place.

We must consider more flexible mechanisms such as extending co-operative awards in science and engineering, examining the teaching companies' scheme and encouraging and subsidising to a limited extent the involvement of researchers within small to medium-sized businesses. We must ensure that that sector can take advantage of the large sums of money that we are willing to commit to such a programme. While I support the overall principle and hope that the fourth framework programme will be successful, I still have grave doubts whether our industry is equipped to benefit in the long term from the money that we are spending.

11.30 am

Mr. Dafydd Wigley (Caernarfon): I overlooked earlier the issue of whether the energy section that is within the remit of the fourth framework programme can include, or will include, work into the decommissioning of nuclear power stations. That is of considerable concern in my county of Gwynedd given the proposed decommissioning of Transfynydd nuclear power station.

Undoubtedly, we share a common interest with our European partners because, in the coming years, the decommissioning of nuclear power stations will constitute a challenge in several European states, and lessons that can be learnt in one area are of relevance to another. It is genuinely a matter of public anxiety, not just of private gain. Therefore, I should be grateful to know whether that aspect is taken on board under the heading of nuclear fission and safety because, surely, nuclear safety is relevant to decommissioning.

I wish to take up the theme of the hon. Member for Kirkcaldy, who referred to the mechanisms whereby small and medium-sized enterprises can take advantage of work that is being undertaken. I share the fear of the hon. Gentleman that companies may miss out on the possibilities of benefitting and of being transferred into the market. I anticipate there being several dangers, one of which might arise from the accounting structures of different countries. I refer to the help, whether in terms of writing down or other accounting devices, that encourages or discourages companies from putting money into research and development. I am worried about the way in which that would encourage, or would not encourage, their propensity to take advantage of the work that is being undertaken on a European level.

Side by side with that is access to information and the knowledge of what is going on and what the companies can get stuck into. Large companies will have specialists and be able to apply themselves to research, while often small companies do not have such a provision. Although they may know broadly what they want, they may not know what is happening in terms of general research, and that interface must be tightened up considerably.

We must also consider patent protection. Although the work being undertaken on a European level in many sectors may be remote from the market, clearly the speed at which some aspects can move forward from general theoretical research to a market applicability can be quite

fast. It might be even more fast in some sectors in the future. I have in mind the genome-type work and some of its applications, whether in the human sector research, to overcome disabilities, or in the animal sector. In both sectors there is a tremendous potential of market benefit.

Alongside patent protection is the matter of there being equal access to the patented work, to which small companies can latch on to. I do not want information to find its way only to some companies that might be uncomfortably close to those who have access to the scientific work that is being undertaken. There is a need for a transparent system to protect the interests of small companies. Often, companies employing 30 to 40 people are making some of the most exciting progress in reaching potential breakthroughs in that regard, so there is a need for safeguards to ensure that information gets through.

I support the remarks made about evaluation because frequently the only people capable of it are those who are already committed. That causes difficulty and when we are discussing money of that order, there is a need for safeguards.

Finally, are the Government satisfied with the distribution? Distribution has been earmarked between various programmes and the headings appear in the papers that have been given to us. Are the Government happy with that, or are they fearful of missing out or of not getting a final distribution that meets the requirements of industry in the United Kingdom? What are the arguments on that matter?

11.35 am

Mr. Quentin Davies (Stamford and Spalding): I congratulate my hon. Friend the Minister on having introduced the topic with great competence and clarity. His presentation of the case was extremely persuasive and he has probably persuaded hon. Members on both sides of the Committee.

I have three brief observations. I am certainly not one of those who are offended in principle by the idea that the European Community should have competence and a role in the subject under discussion. Competition is a virtuous spur to performance, in relation not merely to market research and development—all of us would accept that—but to pure research. To a large extent, the history of science demonstrates that. One can overstate the argument for the benefits of co-ordination at the centre and the avoidance of duplication by expanding the role of the Community at the expense of the potential role of individual member states or Government-funded institutions.

There is no doubt that if the 13 BECU were repatriated to individual member states, as the more fanatical anti-Europeans might like to happen, first, there would be a great deal of duplication and a loss of efficiency. Secondly, and perhaps most sinisterly, as is clear from some of the papers that we have considered today, there would be an overwhelming temptation, which would not be resisted in many member states, to use those sums as a slush fund to assist industries that are suffering either temporary or long-term economic problems. It would be extremely difficult to prevent that happening and we would return to controversies about state aids and so on. It is good that the Community has developed competence in that regard in principle and I wish it well.

[Mr. Quentin Davies.]

Secondly, I was grateful for the Minister's responses on evaluation. The British Government are clearly determined to ensure that effective mechanisms are in place so that we can meaningfully monitor performance in those sectors and take better decisions in future. I agree with my hon. Friend the Minister that a form of quantified investment appraisal of the discounted cash flow technique would not be appropriate. It would not even be appropriate in theory because it is clear that the return from that form of investment is an external return and the capital asset pricing model techniques to which my hon. Friend referred have been developed to evaluate internal returns.

The external return will be gained by all of us, in so far as pure research leads eventually to near market research and the development of unthought of new products that may save our lives, provide us with new energy sources or whatever, or to the improvement of existing products and the efficiency and productivity by which they are manufactured. We shall all benefit from such research, although it is difficult to know exactly what proportion and external return will be achieved. External returns are notoriously difficult to define, let alone to evaluate.

Whether we in Britain capture certain internal returns in future, whether we gain the industrial benefits as well as the externalities, whether employment is generated and factories established in Britain, whether people raise capital and get an internal rate of return on it, and whether we obtain the new products from the Pacific rim, south America or elsewhere, depends on one fact—whether we have in Britain and in the Community a sufficient, flexible and dynamic supply side, or whether the supply sides available to absorb and utilise technologies elsewhere in the world prove themselves to be more flexible, dynamic and fertile. There is no way in which we can avoid that question, and that is why some of us believe that it is important that we should have Conservative Governments in this country and Conservative-type economic policies in the rest of the Community for us to be able to capture those internal returns. That is essential, but it is a wider topic than the one under discussion.

My final comments relate to the bottom-up approach. I agreed with the views expressed by the hon. Member for Kirkcaldy, who knows a great deal about scientific research. The Committee would, I believe, welcome a more bottom-up approach, both in the development of the global budgetary figures with which politicians have to deal in the Council of Ministers and the European summit, and in the way in which programmes are managed. I agree with the hon. Gentleman that if the central directorate determines the precise programmes, lays down the specifications for them, goes out to tender and invites the various research bodies to bid, great faith is placed in the superior intelligence of the people running it.

There must be some scope for allocating part of the budget, within generally agreed fields, to research projects where the initiative would be taken by the researching organisations. Research institutes, universities and so on could then bid, within the framework of the programme, for funding for a research project that they had conceived—rather as our own research councils, I believe, work. That would be an interesting check or balance in the system. Although I have no background in scientific research, unlike some colleagues on both sides of the Committee, it seems to me that that would provide a useful

dilution of and counterweight to the undue authority and influence of the central management directorates over the system. Perhaps my hon. Friend the Minister will consider that idea worth taking further and raising with his colleagues in the Council when he next has an opportunity to discuss the matter there.

11.43 am

Mr. Bill Etherington (Sunderland, North): Like my Front-Bench colleague, the hon. Member for Kirkcaldy, I support the Minister's statement. Most of what needs to be said has already been said, but I am unhappy about the underlying rationale, which seems to be that research for the industrial market should be left to the businesses concerned, that companies should be allowed to decide what they will do and that everything else should be made to fit in with that. I take the contrary view that for a nation and, more importantly, for the European Community, research and development are too important to be left to the market.

Over the past 10 years, there has been a tremendous contraction of the manufacturing base in this country, which is unparalleled in any other nation. The best example would be the demise many years ago of the British motor cycle industry. That was an enormously successful industry, a world leader, and appeared to be safe. As it was so successful, the entrepreneurs who were running it seemed to think that it was unnecessary to carry out research and development. Of course, British manufacturers were overtaken by those of other nations, swamped and eventually obliterated.

I believe that the Community will try to do something rather different with its research programme. It will seek to carry out research and development with the aim of creating a successful Community. That means that a considerable amount of the budget will need to go to less-developed areas of the Community. As time goes by, there may well be more such areas. I envisage the Government finding themselves at loggerheads with the Community over the matter. It is reasonable for any nation to expect a fair share of its contributions to go towards helping it. As long as we go along with the idea that individual companies know best and that we should leave them to find a market, our manufacturing base will continue to contract and we shall continue to prosper less. I am concerned about that.

Dr. Moonie: I assure my hon. Friend that far from thinking that we should not support companies, I feel strongly that the Government have a role to play in supporting industrial research by companies. However, I do not think that such support should come from this particular pot. It has a specific function in generic technology. That is not to say that we should not support industrial research in another way.

Mr. Etherington: I thank my hon. Friend. The hon. Member for Stamford and Spalding mentioned pure research earlier. I am most sympathetic towards that aspect because from pure research we shall build up a database that will be of great advantage to manufacturing.

11.46 am

Mr. David Davis: I have listened with great interest to this morning's debate. I welcome the constructive nature of the contributions, which has made the experience different

from my experiences in my previous incarnation. I am overwhelmed by the consensus, and it is an enjoyable sensation.

I was also impressed by the quality of the contributions. My hon. Friends the Members for Stamford and Spalding and for Colchester, South and Maldon made constructive contributions. That comment applies equally to Opposition Members.

This is an important moment in the development of European Community science. The direction that the new programme takes will have important consequences for European economic performance—the point made by the hon. Member for Sunderland, North—and for the quality of life of those who live in the Community.

It is no surprise that the discussions leading to the Commission's current proposals have been lengthy and that the positions of individual countries on some questions appear to be quite far apart. The programme brings countries at different stages of development together—again, a point made by the hon. Member for Sunderland, North. The speed at which those science technology systems come closer into line is the backdrop to the general European science debate.

I shall pick up the question that the hon. Member for Sunderland, North asked me earlier and also his point about management—a point with which I have some sympathy. He asked about the spend in the UK, Japan and the US. The spend in the UK is about 2 per cent. of gross domestic product. In Japan and the US, it is about 3 per cent. of GDP. The principal difference is not in Government spend, but in the spend of industrial concerns, which, in a sense, is the hon. Gentleman's point.

It is worth understanding the point about pre-competitive research. As my hon. Friend the Minister for Stratford and Spalding so eloquently told us in his dissertation on capital asset management models, pre-competitive research creates an externality. Externality is the seed bed that will encourage profitable, effective, industrial research. I shall return to the matter in detail, and in particular to SMEs. In a sense, we do not differ. Pre-competitive research is intended to create an environment in which profitable industrial, market-led—not Government directed—research can be done.

The hon. Member for Kirkcaldy made a point about the clarity of the difference between pre-competitive and sectorial research. He is quite right. In one section of one of our explanatory memoranda we talk about one of the transport budgets and our preference for more to go to aeronautics. That is partly because aeronautics is a good test bed for other industries' pre-competitive technology. What is pre-competitive for one industry can be near-market for another. The difference is subtle and sophisticated. I do not think that we shall argue about that.

As the hon. Gentleman was so generous to me, I shall be generous about his Freudian slip about the size of the overall expenditure. There will clearly be tough talking on 6 December about the total to be spent. I have made clear the Government's view that the Commission's proposed expenditure is significantly higher than we think necessary or justified—partly, as I have said, because of the bottom up approach. We are not alone in believing that, and we shall work with others to achieve a conclusion along those lines. As the hon. Member for Kirkcaldy said, because of the size of the figures involved we must keep clear sight of value for money.

I hope that throughout the debate I have emphasised the Government's stance. I have a folder full of evaluation reports on various aspects of the programme, and we shall have more and more such reports as we proceed. These are the most constructive and useful documents—for my own education, frankly, apart from anything else—in helping to develop understanding of how the programme should develop.

During our presidency, we led on this issue; it was one of our principal concerns. We launched an initiative to improve the quality of the science and technology programme in the light of widespread disquiet within the science and technology community.

Dr. Moonie: Are these documents in the public domain, or are they merely being dangled like candy just out of a child's reach?

Mr. Davis: I always like to tease the hon. Gentleman, but I shall give him one of the documents now.

As I made clear in my opening remarks, there are a number of detailed points to pursue on the breakdown. At the broad level, we would expect to see by far the largest part of the programme's resources put into the main research programmes—what we consider hard science. We believe that that figure should be at least 87 per cent. or 88 per cent. of the total. Beyond that, we shall naturally be promoting the UK's position in line with the advice that we have received, after very full consultation with all sectors of the science and technology community. Again, we come to the bottom up approach, in terms even of deciding the aggregate numbers, before we consider the individual programmes. We have already adopted bottom-up research to a large extent. I cited a good example to the Committee—the Plant Genetics or Amica project. That is led by the John Innes Institute in this country and by the Max Planck organisation in Germany. The point of them leading the project, which has many contributors, is to achieve expert, world class research orientation. It is worth explaining to the Committee roughly how the European public expenditure survey works, although I do not wish to get into something that competes with the Schleswig-Holstein question on complexity. In rough outline, it works as follows: department X has a research budget, within which is an assumed component—a baseline number for the amount of money that will go into European research. It is not an irrational start position. Let us say that the figure is £10 million. We then negotiate for a programme which for the community is £100 million, and say that our attribution level is 15 per cent. The department will have £5 million deducted from its domestic programme—the difference between the original £10 million and the 15 per cent. of the total programme. The reason for that is straightforward. It will ensure that the European programme does not become a pot into which one puts marginal projects. It should not be a place where one puts projects which are more appropriately dealt with at national level or regarded as a way round proper financial control, which I am sure the hon. Member for Kirkcaldy will accept. We aim to prevent that from happening.

I cannot pre-empt the role of the Treasury, especially on Budget day, but, of course, the public expenditure survey round is an annual programme and those matters are discussed each year. I assure the hon. Member for Kirkcaldy that common sense applies in that regard and

[Mr. Davis.]

that the exercise is not carried out purely by the laws of arithmetic. Perhaps that is as much as I can get away with without being called in by the Chief Secretary.

It is my contention, which I believe the Opposition will accept, that the main thrust of the Government's White Paper on research was to try to ensure that the Government-funded research programme was carried out in such a way as to encourage, and make it most useful for, industries for wealth creation.

That is not the only weapon that we use. As the hon. Member for Kirkcaldy knows, because he has referred to it in debate, we now have an annual R and D scoreboard and part of its purpose is to encourage companies and financial institutions to think carefully about the appropriate level of research and development. We believe in openness, which makes an important and valuable contribution.

We tend to talk about small and medium-sized enterprises as though they were uniform. A small or medium-sized enterprise can be anything that is VAT registered and has between one to 250 people. It could include a local barber shop. Obviously, that would not have much capacity or appetite for technology but even within the categories that are technologically interested, such as the nascent Oxford Instruments and so on, it is possible to have a very wide range of interest. Some will only be interested in near market research and, for them, the Eureka programme is much more appropriate. Others have gains from generic research.

In my judgment, one of the most important parts of the programme for SMEs is information availability and ease of access. In that regard, we have already done a great deal. I mentioned the Relay programmes and there is a Relay centre in each of our constituent countries of England, Wales, Scotland and Northern Ireland. Those centres are specifically designed to promote that information with access to the Community Research and Development Information System, the database on the matter.

I have talked about our drive to make those matters simpler and all Department of Trade and Industry offices have access to the structure that has been in existence since the beginning of this year. That has been a major thrust of our policy and it is important because the work of SMEs lies at the heart of any vibrant economy. We know that most employment in this country has been created by small and medium-sized enterprises and not massive companies.

I believe that I have answered all the questions about SMEs, except for the issue of patent protection raised by the hon. Member for Caernarfon. Responsibility for intellectual property rights and patent protection lies with the partners in any of the collaborations covered by this funding. We advise originators that they must consider that before they go into the collaboration. An EC model contract exists and it will prove helpful in making decisions and taking actions that enable originators to protect their position and derive the maximum benefit from what they undertake.

This is not a Cinderella area, although it has been historically.

Mr. Wigley: I followed closely what the Minister said. Is he satisfied that we shall get a balance of interest between those who have gone into the collaborative schemes and rightly want to protect their rights by patent, and those companies with opportunities in the market place that,

although not partners, have an interest because general money has gone into the scheme which should be of general benefit?

Mr. Davis: The hon. Gentleman rightly chooses the word "balance". We should bear in mind that a use patent could be applicable for a technology. Although I may be manufacturing an implausible example, let us say that we encourage continental-wide research in clean manufacturing technology and low energy use manufacturing technology. Those sectors have a very wide application. It may be that by being involved in one component of that, an SME, a company or an institution will find an application that is valuable to it in its industry. That will be the nature of pre-competitive engineering technology. We shall see that serendipitous outcome, but a balance must be struck. Where there is not a loss to the individual, we and the programme attempt to achieve as wide dissemination of information as is possible precisely because it is pre-competitive.

As I said, 75 per cent. of those who participated in the Brite-Euram project believed that their manufacturing competitive position had improved. That may be not because of patentable knowledge but because of experience and contacts. Although that is not true of all sectors, Britain has a fairly good record of applications for such projects from the private sector, presumably because it thinks that it is beneficial. We shall do everything we can to improve that, but that is a test of the problem mentioned by the hon. Gentleman.

We do not have much time—

Dr. Moonie: We have an hour.

Mr. Davis: I trust that the hon. Gentleman does not want me to speak for an hour, although I can if he really wants me to.

The Opposition spokesman mentioned the joint research centre. We believe that that is an important part of imposing negotiations. We have been in the forefront of pressing for change for the JRC. That does not imply hostility towards the workers' laboratories but reflects the fact that it makes sense for the work in those laboratories to be viewed alongside the work in national laboratories. That offers the best value for money.

The JRC's valuable work for the Commission in setting European-wide standards in, for example, nuclear safety, will continue, as will the high-quality research, on which our total evaluation reports have commented. We shall be looking for a forward-looking customer-contractor relationship to exist wherever possible. To achieve that, we are discussing with our partner countries the action plan needed to transform the Commission's financial regulations and the personnel policies that the JRC has followed for many years. That is part of the value-for-money and delivery issue that we have been discussing this morning.

Mr. Wigley: I asked a specific question about the decommissioning of nuclear power stations. I shall be grateful if the Minister will respond.

Mr. Davis: The note that I sent has been mislaid. However, there is no specific line for decommissioning in framework 4. I presume that work on related techniques will be carried out. That is as clear as I remember my advice to be. I hope that that helps the hon. Gentleman.

This has been a useful opportunity to debate the issues. It has been an interesting debate. The negotiation is far from over and we do not expect discussion on 6 December to be easy—it will be nothing like as consensual as the debate this morning. Unless there is substantial movement from some of the positions adopted in the negotiations, agreement will be difficult.

I assure the Committee that my right hon. Friend the Chancellor of the Duchy of Lancaster will take a full part in the proceedings and will actively seek constructive solutions to the problems that face us; solutions that take account both of the opinions and needs of the UK taxpayer and of the objectives of the European research and technology community. We shall steer the best course that we can to achieve a result that will benefit us at many different levels.

Question put and agreed to.

Resolved,

That the Committee takes note of European Community Document No. 8107/93, relating to Community research and development; and endorses the Government's negotiating objectives of securing both excellence and value for taxpayers' money in these activities, enhancing their contribution to economic competitiveness, and seeking in particular an overall amount for the Fourth Framework Programme and a detailed breakdown of expenditure between activities that reflects the United Kingdom's interests and priorities.

Committee rose at five minutes past Twelve o'clock.

THE FOLLOWING MEMBERS ATTENDED THE COMMITTEE:

Jones, Mr. Martyn (*Chairman*)
Ainsworth, Mr. Robert
Davies, Mr. Quentin
Deva, Mr.
Etherington, Mr.

Hendry, Mr.
Illsley, Mr.
Jenkin, Mr.
Whittingdale, Mr.
Wigley, Mr.

The following also attended, pursuant to Standing Order No. 102(5):

Davis, Mr. David (*Parliamentary Secretary, Office of Public Service and Science*)
Moonie, Dr. Lewis (*Kirkcaldy*)

the situation is all the more problematical because it is not clear what the best way is to do this. There are two main ways of proceeding. One is to take a top-down approach, starting from the assumption that there is a single European political culture which must be imposed on all countries and the second is to take a bottom-up approach, starting from the assumption that there are different national cultures and that these must be accommodated. In the former case, the emphasis is on the need to impose a common set of rules and regulations, while in the latter case, the emphasis is on the need to accommodate differences between national cultures and to find ways of dealing with these differences.

The first approach of top-down regulation has been adopted by the European Commission, which has proposed a VAT directive, a minimum wage directive, and a minimum working time directive. These directives are designed to impose a uniform set of rules across the EU, and they have been controversial. The argument that one particular rule should apply throughout the EU has been resisted by some countries, such as the UK, which argue that a minimum wage, for example, should be decided at a local level rather than at a European level. This argument has been accepted by the European Commission, which has proposed a minimum wage directive that will apply at a local level.

The second approach of bottom-up regulation has been adopted by the European Parliament, which has proposed a resolution on the right to work, which would give workers the right to work in another country if they so desire. This resolution has been controversial, with some countries, such as France, arguing that it would lead to a loss of jobs in their own country.

The two approaches have led to some tension between the European Commission and the European Parliament. The European Commission has argued that the VAT directive is necessary to ensure a level playing field between member states, while the European Parliament has argued that it is unnecessary and that it would lead to a loss of jobs in member states.

The European Commission has also come under fire for its handling of the eurozone crisis. The eurozone crisis has been described as a "Euro crisis" by some, and as a "debt crisis" by others. The European Commission has been criticised for its handling of the crisis, particularly its handling of the Greek debt crisis, which has been described as a "Greek crisis".

The European Commission has also come under fire for its handling of the refugee crisis. The refugee crisis has been described as a "refugee crisis" by some, and as a "migrant crisis" by others. The European Commission has been criticised for its handling of the crisis, particularly its handling of the migrant crisis, which has been described as a "migrant crisis".

The European Commission has also come under fire for its handling of the Brexit negotiations. The Brexit negotiations have been described as a "Brexit negotiations" by some, and as a "Brexit negotiations" by others. The European Commission has been criticised for its handling of the negotiations, particularly its handling of the Brexit negotiations, which has been described as a "Brexit negotiations".

The European Commission has also come under fire for its handling of the migrant crisis. The migrant crisis has been described as a "migrant crisis" by some, and as a "refugee crisis" by others. The European Commission has been criticised for its handling of the crisis, particularly its handling of the migrant crisis, which has been described as a "refugee crisis".

The European Commission has also come under fire for its handling of the eurozone crisis. The eurozone crisis has been described as a "Euro crisis" by some, and as a "debt crisis" by others. The European Commission has been criticised for its handling of the crisis, particularly its handling of the Greek debt crisis, which has been described as a "Greek crisis". The European Commission has also come under fire for its handling of the refugee crisis. The refugee crisis has been described as a "refugee crisis" by some, and as a "migrant crisis" by others. The European Commission has been criticised for its handling of the crisis, particularly its handling of the migrant crisis, which has been described as a "migrant crisis".

Finally, the European Commission has also come under fire for its handling of the Brexit negotiations. The Brexit negotiations have been described as a "Brexit negotiations" by some, and as a "Brexit negotiations" by others. The European Commission has been criticised for its handling of the negotiations, particularly its handling of the Brexit negotiations, which has been described as a "Brexit negotiations".

In conclusion, the European Commission has come under fire for its handling of a range of issues, including the VAT directive, the minimum wage directive, the minimum working time directive, the right to work, the eurozone crisis, the refugee crisis, and the Brexit negotiations.

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